Determination of Potential Agricultural Conservation Savings (Low End of Range) San Francisco Bay

97 (1,000 af) Applied Water 86 (1,000 af) Depletion

Assumptions for Calculations

1 100 min pulo no non companio no		
1. Ave. Leaching Fraction =	6%	=
2. % lost to Channel Evap/ET ³ =	4%	

3. Assumed allocation of conservation betw District and On-farm district portion = 1/3 of savings * "adjustment factor"

canal lining:
tailwater:
flexibility:
meas/price:

(adjustment factor based on region variation

1 (points for this region's districts of 4 points for average)

0.25 = adjustment factor

8% = district portion

92% = on-farm portion

in water districts)

Calculations from Input Data

Total Irrecoverable losses

Total Recoverable losses

Ratio of Irrecoverable Loss

ET of Applied Water

(1,000 af) **Total Existing Losses**

74 (1,000 af)

23 (Diff betw. Applied Water and ETAW)

12 (Diff betw. Depletion and ETAW)

11 (Diff betw. Applied Water and Depletion)

52% (Irrecov divided by total existing losses)

Portion lost to leaching 2 (Leach Fraction * ETAW * Irrec. Loss Ratio * Adj. Factor)

Portion lost to Channel Evap/ET 4 (Applied Water * % lost to Channel Evap/ET)

Total Loss Conservation Potential

17 (Total Existing loss - portion to leaching - portion to channel evap/ET) 6 (Irrec loss - portion to leaching - portion lost to channel evap/ET) Irrecoverable Portion

Recoverable Portion 11 (Total Existing loss - Irrecoverable Loss Portion)

Incremental Distribution of Conservable Portion of Losses

		Distrib. Factor	Applied Water Reduction ¹ (1,000 ac-ft)	Irrec. Loss Reduction ² (1,000 ac-ft)	Rec. Loss Reduction (1,000 ac-ft)
No Action Increment =	1st 40%	0.40	7	2	4
CALFED Increment =	next 30%	0.30	5	. 2	3
Remaining =	final 30%	0.30	_ 5	2	3
	•		17	6	11

Summary of Savings:

Existing Applied Water Use =

Total Potential Reduction of Application

(1,000af)	Existing	No Action	CALFED	Total
On-Farm		6	5	11
District		_1	0	11
Total	23	7	5	12

Recovered	Losses	with	Potential	for	Rerouting	Flows	
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(1,000af)	Existing	No Action	CALFED	Total
On-Farm	-	4	3	7
District		0	0	0
Total	11	4	3	8

Potential for Recovering Currently Irrecoverable Losses

(1,000af)	Existing	No Action	CALFED	Total
On-Farm		2	2	4
District	-	0	0	0
Total	12	2	2	4

Notes:

- 1. Calculated as the distribution factor times the "conservable portion" of the total existing loss. The first 40% of savings potential occurs under No Action. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
- 2. Calculated as the distribution factor times the "conservable portion" of irrecoverable loss. The first 40% of savings potential occurs under No Action. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
- 3. Derived from comparing consumptive conveyance loss values from USBR Least-Cost CVP Yield Increase Plan, T.A #3 (Sept. 1995) to applied water values for the region. A range of 2 to 4% was used to account for uncertainty. This value accounts for consumption by bank and riparian vegetation and channel evaporation.

Determination of Potential Agricultural Conservation Savings (High End of Range) San Francisco Bay

put Data from DWR			Assumptions for Calculations	
Applied Water	97	(1,000 af)	1. Ave. Leaching Fraction =	4%
Depletion	86	(1,000 af)		
ET of Applied Water	74	(1,000 af)	2. % lost to Channel Evap/ET 3 =	2%
			3. Assumed allocation of conservation be	etw District and On-farm
			district portion = $1/3$ of savings * "adj	ustment factor"
			canal lining:	0
			tailwater:	0 (adjustment factor
			flexibility: meas/price:	0 based on region variation 1 in water districts)
alculations from Input Data				1 (points for this region's districts
		(1,000 af)	· · · · · · · · · · · · · · · · · · ·	of 4 points for average)
Total Existing 1	Losses	23	(Diff betw. Applied Water and ETAW)	0.25 = adjustment facto
		12	(Diff betw. Depletion and ETAW)	8% = district portion
Total Irrecoverable	iosses	14	` ,	o, o albunio pormon
Total Irrecoverable Total Recoverable			(Diff betw. Applied Water and Depletion)	92% = on-farm portion
	losses	11	` '	•
Total Recoverable	losses e Loss	11 52%	(Diff betw. Applied Water and Depletion)	92% = on-farm portion
Total Recoverable Ratio of Irrecoverable	losses e Loss aching	11 52% 2	(Diff betw. Applied Water and Depletion) (Irrecov divided by total existing losses)	92% = on-farm portion
Total Recoverable Ratio of Irrecoverable Portion lost to le	losses e Loss aching vap/ET	11 52% 2 2	(Diff betw. Applied Water and Depletion) (Irrecov divided by total existing losses) (Leach Fraction * ETAW * Irrec. Loss Ratio * Adj. Factor	92% = on-farm portion
Total Recoverable Ratio of Irrecoverable Portion lost to le Portion lost to Channel Ev	losses e Loss aching /ap/ET otential	11 52% 2 2 20	(Diff betw. Applied Water and Depletion) (Irrecov divided by total existing losses) (Leach Fraction * ETAW * Irrec. Loss Ratio * Adj. Factor (Applied Water * % lost to Channel Evap/ET)	92% = on-farm portion) nel evap/ET)

Incremental Distribution of Conservable Portion of Losses

		Distrib. Factor	Applied Water Reduction ¹ (1,000 ac-ft)	Irrec. Loss Reduction ² (1,000 ac-ft)	Rec. Loss Reduction (1,000 ac-ft)
No Action Increment =	1st 40%	0.40	8	3	4
CALFED Increment =	next 30%	0.30	6	3	3
Remaining =	final 30%	0.30	6	3	3
	'		20	9	11

Summary of Savings:

Existing Applied Water Use =

97

Total Potential Reduction of Application

(1,000af)	Existing	No Action	CALFED	Total
On-Farm		7	5	12
District		ţ	0	1
Total	23	8	.6	14

Recovered Lo	osses with Potei	itial for Kero	outing Flows	
(1,000af)	Existing	No Action	CALFED	т

(1,000af)	Existing	No Action	CALFED	Total
On-Farm		4	3	7
District		0	0	0
Total	11	4	3	8

Potential for Recovering Currently Irrecoverable Losses

(1,000af)	Existing	No Action	CALFED	Total
On-Farm		3	2	5
District		. 0	0	0
Total	12	3	3	6

Notes:

- 1. Calculated as the distribution factor times the "conservable portion" of the total existing loss. The first 40% of savings potential occurs under *No Action*. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
- 2. Calculated as the distribution factor times the "conservable portion" of irrecoverable loss. The first 40% of savings potential occurs under No Action. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
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